

the pollution of the water occasioned by the use of cisterns; whereas at Croydon, under the Public Health Act, the expense of a constant supply of water, entirely free from animal impurities, and free from the soot and dirt of cisterns, well aerated and fitted for immediate use at the table, would be at an average rate of only 12s. a house per annum, or less than 3d. per week per house, while no cisterns or expensive works of the kind would be required in any of the houses. This calculation was made for works which had been laid out for the progressive increase of the town, and for double the present population, and then the cost would be reduced to an expense of 1½d. per house per week; and this constant and unlimited supply of pure spring water could be given to the poorest houses in the place at the rate of 1d. a week per house.

With respect to drainage, too, a great saving is to be effected, and we may have an opportunity to look more carefully into the arrangements.

Returning to London, we re-urge the crying necessity of freeing the river from pollution, and providing perfect drainage for the town. Half-measures will not do: we must have the most perfect plan that can be obtained. "Lords and Commons of England," we say with Milton, "consider what nation whereof it is ye are, and whereof ye are the governors; a nation not slow nor dull, but of a quick, ingenious, and piercing spirit: acute to invent, subtle and sinewy to discourse, not beneath the reach of any point the highest that human capacity can soar to."

ON SOUND CONSTRUCTION IN REFERENCE TO THE BUILDING ACT.

Your observations upon the materials and workmanship employed in speculative buildings, and the illustrations which they derive from the accidents that are sometimes occurring, will, I trust, command serious attention. They are pregnant with instruction, and convey lessons for precaution, which it behoves us all to ponder well and in time.

Never were tact, firmness, and good sense more necessary in the district surveyor; for there are four great causes which tend to deprive him of the moral support and influence which ought to be conceded to him as a public officer, whose duty it is to protect the lives and property of the public. First, there is the anomalous position of the Metropolitan Buildings-office; secondly, the weakly-advised court of appeal—her Majesty's Commissioners of Works and Buildings; thirdly, the tendency of the first Commissioner of Works and Buildings to allow his judgment, in framing the various bills, to be swayed and controlled by that very body, and especially the speculative builders, whose misdoings or want of judgment it is the one great purpose of the Building Act to counteract,—they have such an interest in rendering the Act as inoperative as possible, that it is of course their object to neutralise its requirements, and leave themselves free to go a-head unheeded and unrestrained; fourthly, the strange assumption of most of the magistrates to ignore their purely ministerial administrative character, and to rebear *de novo*, and rejudge cases already heard and already judged by a more competent authority, and whose decision it is their proper duty merely to grant the powers to carry into effect.

Nothing can be more irksome to the district surveyor than to have perpetual squabbles with the builders, and nothing is more inimical to his own interest than to impede the progress of building operations. If, then, the district surveyor considers himself compelled to take steps against a builder, it may be generally assumed, for I do not argue upon exceptional cases, that it is from a sense of duty; for he derives no remuneration for the additional trouble, and exposes himself to a great deal of vexatious opposition and loss of time.

But their duties would be materially lightened if one class of trade, which would be materially benefited, I mean smiths and founders, would turn their attention to the matter, and second the primary intention of the legislature in carrying out the building regulations. I allude to the more general introduction of iron, even as an economical material in various departments of construction. In the first place, I do not see why cast iron cornices for houses and shop fronts should not be introduced. At Paris, many entablatures to some of the most elegant "magazines" are of this material, and present a great variety of design. And no greater monotony need result than is now perceptible in our shop frontpieces, most of which are more or less repetitions of one another. Again, why may not balconies, conservatory inclosures, and verandahs and outside blinds be of metal instead of wood, so inflammable a matter? I seek, as much as possible, to induce builders in my district to adopt iron trimmers to the fire-places, consisting of inch or inch and a quarter square or circular iron bar: the economy of expense both as to labour and material is remarkable; and there is this further advantage, that it prevents the constant recurrence of the question of the insertion of trimmers into or near the flues.

Again, I do not see why every external window and door-opening should not be required to have a cambered bar as well as the chimney-openings; for more frequently the weight is enormous which comes directly over the window-arches, particularly that now-a-days no attention is paid to make "voids over voids, solids under solids," and immense solidity would be added to external walls, if bars, say 2 or 3 inches wide and 3-8ths thick for ordinary houses, were introduced the whole length of the fronts, bedded in cement immediately over the openings, and relieving the arches from considerable strains.

Nor do I think that the Legislature would err, if it required, in the height of each story, two tiers of hoop iron bond, laid in one course with fresh cement and sand in equal quantities, and each tier consisting of at least two lengths of hoop iron not less than an inch and a half wide and 1-16th thick, a precaution the more necessary since wood bond has been so properly precluded from party-walls.

I am not sure that it would not be wise in the Legislature, as a *sanitary* precaution in order to keep out damp, to require that none but sound stock bricks be used in all external walls; and, as a *constructive* precaution, that none but stock bricks be used in the brick-work of the lowermost story and in the chimney-breasts and widths of the flues; allowing not more than one-third place-bricks to be used in the rest of the party-wall. The remission of the duties on bricks would justify such a requirement on the part of the Legislature.

I shall not allude to other expedients adopted usually by experienced architects and surveyors in the erection of buildings, and which might not be absolutely requisite in ordinary cases, and frequently vexatious. If it were thought necessary to contemplate all possible casualties by direct enactment, or to leave it to the responsibility of the district surveyor to require such and such increase of strength and addition of material, as he might think expedient, I fear the public would have to incur an enormous expense, as distributed over all the districts, more than equivalent (and I trust I may say it without being deemed as irreverently regardless of human life) for the comparatively few casualties which occur in the metropolis, and which do not exceed one per fifty thousand per annum, and most of which are caused by the negligence of the workmen themselves, more than through any defect of construction.

T. L. DONALDSON.

SOCIETY OF ARTS.—On Wednesday evening, 17th inst., Mr. Jacob Bell, M.P., delivered the third of the series of Exhibition lectures at the Adelphi. The subject was "Chemical and Pharmaceutical Products."

NOTES ON A FEW IMPORTANT QUESTIONS IN ARCHITECTURAL PRACTICE.

INSTEAD of writing a paper upon any one particular subject relating to the profession, I have put together briefly my notions upon several. The subjects that I touch upon are these:—"The Nomenclature of what is termed Gothic Architecture;" "Copyism and Style;" "Ancient Lettering;" "Church Woodwork;" "Materials for External Work;" "Restorations;" and "Monuments."

I wish this paper to be viewed in the same way as we look over a sketch-book, where we expect and indeed hope to find something fresh, though little elaborated, in every page we turn to. To begin, then, with

The Classification of what is termed Gothic Architecture.—It is any thing but satisfactory to find the buildings of this country continually being re-classified by our professors and amateurs: we have, amongst the numerous terms at present in use—Medieval, Gothic Church, Spiritual, Pointed, Christian, Middle Ages, Ecclesiastical, and Romantic architecture; these meaning one and the same thing, being divided into styles, periods, or ages (all in a state of progress or transition), and up to this time called by at least 150 different names: so many, in fact, are the terms now in use that it is quite an exertion even for an architect to become acquainted with them. Notwithstanding all this, there does not seem to be any very great difficulty in describing a building to any one in the profession. Who, however, has not been sorely vexed while endeavouring to do so to one not acquainted with our changeable nomenclature? To talk to the public about a church being "Perpendicular," "Early Complete Gothic," or "Debased," is of little use: they naturally expect to understand us at once, and without the least explanation. If we speak of Grecian, Roman, Egyptian, or Chinese architecture, people know what we mean; but so long as we talk about "English Perpendicular," "Decorated Scotch," or "Irish Early English," they will not and cannot comprehend us. Why not, then, call our own architecture simply "*English*?" Every one will understand the meaning of "English architecture of the thirteenth century," also fourteenth or fifteenth century, Irish, Scotch, French, German, or Spanish: we shall thus get over all difficulties as to the transitional state of our buildings, and shall do away with the numerous styles, periods, and orders that have puzzled the learned and unlearned for so many years.

By so speaking about buildings, we not only give ourselves less trouble, but we are able to converse upon architectural subjects with the most uneducated without having to enter into long explanations as to the meaning of "Early Middle Pointed," or "Complete and After Gothic."

My second note relates to—

"*Copyism and Style.*"—Those who come under the denomination of Gothic, or as we will now call them, English architects, abuse the classic ones for copying the temples of Greece and Rome: the classic gentlemen tell us that their opponents copy the churches of the thirteenth and fourteenth centuries: others abuse both, and while denouncing copyism altogether, tell us to follow the laws of nature and Venetian architecture. Now, Venetian palaces are much better in Venice than in Pall-mall. Grecian buildings, fine as they are in Greece, are not suitable for London. Italian ones should remain in Italy; and, certainly, Chinese houses, whatever merit they possess, had better keep to China, and China only. But although we should not copy the buildings of other nations, let us study them well; learning elegance from one—beauty, magnificence, and grandeur from others. Our own structures, however, must be really and truly English,—not that I wish old churches copied in the present day, or desire cusped windows, with quarried glass, in our offices or bedrooms; but improvements upon the old buildings, with our latest inventions introduced, the whole carried out in the spirit of the old architects, who, if they had lived till now, would have

* A Paper read at the ordinary meeting of the Architectural Association, on Friday, Dec. 12.

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